Name:

**Enrolment No:** 



## UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

**End Semester Examination, May 2019** 

Course: Energy Conservation, Audit & Regulation

Program: B.Tech. – Electrical Engg + Power System Engg.

Semester: VIII Time: 03 hrs.

Max. Marks: 100

Instructions: All Questions are to be attempted. Maximum marks are mentioned below.

## **SECTION A** Marks $\mathbf{CO}$ Q 1 4 CO<sub>1</sub> Illustrate the major Primary & Secondary Energy Sources Q 2 Describe Energy performance Indicators for four different Industries 4 CO<sub>2</sub> Briefly explain the energy pricing (Electricity & Coal both) in India 4 CO<sub>1</sub> Q 3 Q 4 Illustrate the responsibilities of Energy manager of a plant 4 CO<sub>2</sub> Describe the dispute resolution authorities under EC Act 2001 O 5 CO<sub>5</sub> **SECTION B** Describe Environmental effects of high energy consumption Q 6 10 CO<sub>1</sub> Illustrate the short term, Medium term & Long term strategies for Energy Conservation in India 10 CO<sub>1</sub> Q 7 Describe various techniques of enhancing Energy performance Q 8 10 CO<sub>2</sub> Explain the Powers & Functions of BEE as per EC Act 2001 Q9 OR 10 CO<sub>5</sub> Explain the Roles of SDAs **SECTION-C** Explain Energy Conservation opportunities in Boiler System Q 10 20 CO<sub>3</sub> Illustrate the power sector reform in India through Electricity Act 2003 Q 11 OR 20 CO<sub>4</sub> Elaborate the Demand Side Management and techniques for it.

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SECTION A			
		Marks	CO
Q 1	Describe the Greenhouse Effect and GHG emission	4	CO1
Q 2	Differentiate between Commercial & Non-Commercial energy.	4	CO1
Q 3	Describe the techniques for Energy conservation opportunities with Steam piping	4	CO3
Q 4	List down the Energy Intensive Industries (DC) as described in EC Act 2001	4	CO5
Q 5	Justify that, Electricity Act 2003 is promoting the use of Renewable energy	4	CO5
	SECTION B		
Q 6	Describe the energy pricing control techniques in India	10	CO1
Q 7	Please explain  i) Thermal power Plants are biggest consumer of energy in India  ii) One Unit saved is equivalent to two units generated	10	CO2
Q 8	Describe Benchmarking and its various applications for comparative study	10	CO2
	Explain the responsibilities and duties of Energy manager		
Q 9	OR Fig. 1. 1. Compared to the	10	CO5
	Explain the powers of central Government as per EC Act 2001		
	SECTION-C		
Q 10	Explain the various energy conservation opportunities with rotary equipment and Motors in industry	20	СОЗ
	Describe the strategy for a good Detailed Energy Audit of a process plant		
Q 11	OR  Explain the scope of preliminary energy audit and how it helps for planning of Detailed Energy Audit	20	CO4